



# Small Molecular Donors for Organic Solar Cells Obtained by Simple and Clean Synthesis

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Résumé en anglais	<p>A small donor-acceptor molecule is synthesized in a two-step procedure involving reaction of N,N-diphenylhydrazine on 2,5-diformylthiophene and Knoevenagel condensation. Results of UV/Vis absorption spectroscopy and cyclic voltammetry show that replacement of the phenyl ring bridge of a reference compound 2 by an azo group produces a slight red-shift of <math>\lambda_{\text{max}}</math>, an enhancement of the molecular absorption coefficient, and a decrease of the energy level of the frontier orbitals. A preliminary evaluation of the potentialities of compound 1 as donor material in a basic bilayer planar heterojunction cell of 28 mm<sup>2</sup> active area using C60 as acceptor gave a short-circuit current density of 6.32 mA cm<sup>-2</sup> and a power conversion efficiency of 2.07 %.</p>
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